

WHAT IS CLAIMED IS:

- 1                    1.        A diffusion barrier in an integrated circuit, wherein the diffusion  
2        barrier comprises a self-assembled monolayer.
- 1                    2.        The diffusion barrier according to claim 1, wherein the diffusion  
2        barrier is less than 5 nm thick.
- 1                    3.        The diffusion barrier according to claim 1, wherein the diffusion  
2        barrier is less than 2 nm thick.
- 1                    4.        The diffusion barrier according to claim 1, wherein the self-assembled  
2        monolayer contains an aromatic group at its terminus.
- 1                    5.        The diffusion barrier according to claim 1, wherein the diffusion  
2        barrier inhibits the diffusion of Cu into a silicon-based substrate.